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RISK STRATIFICATION OF CARDIAC SARCOIDOSIS WITH PRESERVED LEFT VENTRICULAR EJECTION FRACTION USING CARDIOVASCULAR MAGNETIC RESONANCE

Poster Contributions
Hall C
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Background: Late gadolinium enhancement (LGE) cardiovascular magnetic resonance (CMR) can identify patients with cardiac sarcoidosis (CS), even in the presence of preserved left ventricular (LV) ejection fraction (EF). However, the prognosis of these patients is not well defined. In patients with CS and preserved LVEF, we sought to determine the rate of major adverse events (MAE) and to identify CMR parameters associated with MAE.

Methods: Forty-one consecutive patients (age 57±7 years, 70% female) referred for CMR to evaluate for CS, with LGE and preserved LVEF (>50%) were identified. Medical records were reviewed and patients contacted to determine MAE (death, ventricular tachycardia, or appropriate ICD therapy). CMR images were used to measure LV and right ventricular (RV) volumes and EF. The burden of LGE was quantified (Diagnosoft Virtue software) as percentage LV mass. Patients were divided into 2 groups (+MAE and -MAE). CMR parameters were compared using the Mann-Whitney U test. The ability of each parameter to predict MAE was determined using area under the curve (AUC) calculated from receiver-operator characteristics.

Results: LGE burden in the entire group was 11±13% and RVEF was 51±11%. Nine patients (22%) had MAE during follow-up (39±15 months). These patients had a greater burden of LGE, larger RV, and lower RVEF than those without MAE (Table).

Conclusions: In patients with CS and preserved LVEF, MAE are common and associated with larger burden of LGE and abnormal RV function.

Population characteristics and prediction of MAE

	Total population	No MAE	MAE	P value (MWU)	AUC for prediction of MAE
LGE (% LV Mass)	11 ± 13	8 ± 7	18 ± 18	0.04*	0.72
LVEF (%)	60 ± 4	58 ± 5	60 ± 5	0.7	0.55
LVEDVi (ml/m^2)	67 ± 16	72 ± 15	68 ± 19	0.4	0.59
LVESVi (ml/m^2)	28 ± 8	29 ± 9	27 ± 8	0.4	0.6
LVMi (mg/m^2)	54 ± 18	50 ± 17	57 ± 5	0.3	0.61
RVEF (%)	51 ± 11	53 ± 8	44 ± 11	0.01*	0.77
RVEDVi (ml/m^2)	76 ± 17	78 ± 15	89 ± 20	0.1	0.68
RVESVi (ml/m^2)	40 ± 17	38 ± 14	53 ± 16	0.01*	0.78

Where * denotes p<0.05, EF= ejection fraction, EDVi= end-diastolic volume index, ESVi= end-systolic volume index, LVMi= LV mass index.